

The Impact of Teaching Self-Determination Skills on the On-Task and Off-Task Behaviors of Students with Emotional and Behavioral Disorders

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Overview

- **Introduction**
- **Rationale**
- **Methods**
- **Results**
- **Findings**
- **Questions**

Challenges faced by Students with EBD

- **High risk of school failure and dropping out**
 - 38% other disabilities vs. 44% to 61% EBD dropout
 - 51% other disabilities vs. 32% EBD graduate with diploma
- **Difficult transitions to adulthood**
 - Postsecondary: Only 1 in 5 vs. 27% 10 yrs. earlier
 - Employment: 50% remain unemployed
- **Community Engagement**
 - Live at Home - 65% vs. 60% 10 yrs. earlier
 - Incarceration - 19% other disabilities vs. 58% EBD

(U.S. Department of Education, 2004; Wagner et al., 2006)



Factors Influencing Poor Outcomes

- **Absenteeism**
- **Limited Social Skills**
- **Problematic Behavior**
- **Poor Academic Preparation**
- **Inadequate Vocational Training**
- **Inadequate transition planning**

Possible Solutions

- **Research based instruction**
 - Academic
 - Behavior
 - Vocational
- **Person-centered planning**
- **Transition Planning**
- **Self-determination**

Why Self-determination

- **Research suggests students with EBD face multiple difficulties**
- **Growing need for multi-dimensional interventions**
- **Solutions tend to be one dimensional**
- **Results with this population have been inconsistent, inconclusive or non-existent**
- **SD theoretical framework is well formulated for work with the EBD**
- **Self-determination has positive outcomes for other disability groups**

Rationale

- **Need for a methodological sound evaluation of the effects of teaching self-determination skills to students with EBD**
- **Need to investigate if self-determination contributes to positive behavior and educational outcomes for students with EBD**

Purpose

- To determine the impact of teaching self-determination skills to adolescents with EBD in a public-school setting.
- ***Self-Determined Learning Model of Instruction (SDLMI)*** was employed as the independent variable
 - Framework based on all key components
 - Appropriate for all students
 - Can be used in any context or content area

Components of Self-Determination

- **Choice making skills**
- **Decision making skills**
- **Problem solving skills**
- **Goal setting and attainment skills**
- **Self-observation skills**
- **Self-evaluation and self-reinforcement skills**
- **Self-instruction skills**
- **Self-advocacy and leadership skills**
- **Internal locus of control skills**
- **Self-efficacy skills**
- **Self-knowledge skills**

Research Questions

1. **Impact of SDLMI on the on- and off-task behaviors of students with EBD?**
2. **Can students utilize SDLMI to make progress toward attaining self-selected goals?**
3. **Can students generalize on-task behavior to other classes?**
4. **Does increased on-task behavior lead to collateral changes in grades?**
5. **What impact does the SDLMI have on the self-determination of students with EBD?**

Method: Participant Criteria

- Diagnosed with EBD
- Receives instruction in a self-contained resource room for one period of the day
- Instruction in one core and one general academic education classroom
- Maintained minimum attendance requirements (90%)
- Parent/guardian and student gave written consent

Participants

	Charles	Jack	David	George
Age	16	16	14	16
Gender	Male	Male	Male	Male
Grade	10th	10th	9th	11th
Ethnicity	Caucasian	Caucasian	Caucasian	Caucasian
IQ Score	118 (WJIII)	105 (WJIII)	89 (WISCIII)	104 (WJIII)
Behavior Intervention Plan	Yes	Yes	Yes	Yes
SES (free/reduced lunch)	Free/Reduced	Not-Eligible	Free/Reduced	Not-Eligible

Method: Setting

- **Mid-size suburban school district in Southwest**
- **Administrators designated two Senior High schools**
- **Special Educators who taught ED participants at each campus were designated by administration to take part in study**
- **All assessments and SDLMI instruction were conducted in quiet corner with a desk and two chairs in the self-contained setting focusing on improving social behavior**
- **All observations of on- and off task behavior were made in the general education classroom**

Method: Dependent Measures

Research Questions	Measures
Research Question 1	On Task Behaviors Off Task Behaviors
Research Question 2	Goal Attainment Scale (GAS)
Research Question 3	On Task Behavior
Research Question 4	Weekly grade reports in core academic classrooms
Research Question 5	ARC's Self-Determination Scale

Method: Dependent Variable

Participant	Operational Definitions of On-Task Behavior
Charles	<p>Pay attention to the speaker (peer or adult); remain sitting in chair with feet on floor with head and body oriented towards teacher; speak out appropriately on topic by requesting teacher attention by raising hand at the appropriate time; verbalize with student or teacher when directed; work on assigned tasks with or without others as directed by the teacher; use appropriate materials, which includes classroom materials (e.g., worksheets) and personal materials (e.g., cell phone) in way they were designed and/or teacher's instruction; and self-monitor behavior by completing on-task behavior checklist during class and operating a timer.</p>
Jack	<p>Pay attention to the speaker (peer or adult); remain sitting in chair with feet on floor with head and body oriented towards teacher; ask for help by requesting teacher attention raising hand at the appropriate time; verbalize with student or teacher when directed by the speaker; follow directions from teacher; complete class work assignments in class on time as directed by teacher; and use iPod and drawing at appropriate times as specified by teacher.</p>

Method: Dependent Variable (Cont'd)

Participant	Operational Definitions of Off-Task Behavior
Charles	Not attending to the teacher during lectures and instruction by failing to orient his head, body and eyes towards the teacher for at least three seconds when the teacher was lecturing or giving instruction; talking out to other students or teacher without raising hand to ask permission from teacher; spacing out; texting on cell phone; not using materials appropriately (e.g., calculator) as specified and directed by teacher; and not working on assigned tasks specified and directed by the teacher.
Jack	Not attending to the teacher during lectures and instruction by failing to orient his head, body and eyes towards the teacher for at least three seconds when the teacher was lecturing or giving instruction; talking out to other students without raising hand to ask permission from teacher; spacing out; not working on assigned tasks specified and directed by the teacher; using iPod; and drawing at inappropriate times (not specified by teacher).

Jack's Goal Attainment Scale Rubric

Goal: I want to use more on-task skills/behaviors to increase focus in the classroom to make better grades

Much more than expected outcome (+2)	Student will utilize 4 out of 5 on-task behaviors (e.g. paying attention speaker, following directions, asking for help, complete class-work) 65-80% of 10-minute intervals over a 60-minute period in math class.
Somewhat More than expected outcome (+1)	Student will utilize 4 out of 5 on-task behaviors (e.g. paying attention speaker, following directions, asking for help, complete class-work) 50-65% of 10-minute intervals over a 60-minute period in math class.
Expected Level of Outcome (0)	Student will utilize 3 out of 5 on-task behaviors (e.g. paying attention speaker, following directions, asking for help, complete class-work) 50-65% of 10-minute intervals over a 60-minute period in math class.
Somewhat Less than expected outcome (-1)	Student will utilize 2 out of 5 on-task (e.g. paying attention speaker, following directions, asking for help, complete class-work) 50-65% of 10-minute intervals over a 60-minute period in math class.
Much less than expected outcome (-2)	Student will utilize 2 out of 5 on-task behaviors (e.g. paying attention speaker, following directions, asking for help, complete class-work) 50% or less of 10-minute intervals over a 60 minute period in math class.

Method:

Observation and Recording Procedures

- **Researcher video taped each student during teacher instruction in a core academic class for a 10 minute period**
- **Taping began when teacher asked for students' attention and instruction began.**
- **On/Off task behaviors are not mutually exclusive**
- **Data collectors used 10 second partial interval recording of on/off behaviors**
- **Percentage of intervals of on/off task behavior were calculated**
- **Observer training continued until 80% accuracy was achieved over 2 sessions**
- **IOA mean was 93% over 39% of observations across conditions**

Method: Independent Variable

SDLMI

- Direct Instructional model
- Stand alone curriculum augmentation strategy
- Behavior objectives selected by the student
- Student directed learning
- Researcher supported the student to engage in self-regulated problem solving strategies
- 12 Questions
 - 3 problem solving instructional phases
 - 4 means-end questions per phase
- Phases
 - Set a Goal
 - Action Plan
 - Evaluate

Method: Experimental Design and Conditions

- **A multiple baseline across participants was employed to evaluate effects of the SDLMI model**
- **Three Conditions**
 - **Baseline**
 - **SDLMI Instruction**
 - **Maintenance**

Method: Experimental Design and Conditions

- **Pre-Baseline**
 - Schools selected
 - Special Ed teachers and students selected
 - Consent forms signed
 - 2 at-risk core areas of instruction identified
 - Teacher and student interviewed and On/Off task behavior defined
 - SDS pre-intervention assessment given prior to baseline
 - Data collection for grades and on/off behavior began at baseline

Method: Experimental Design and Conditions

- **Baseline**
 - Data collection for on/off task behavior and grades began at baseline
 - First student that exhibited steady state of on task behavior with no extreme variability moved to Phase 1 of SDLMI (Exception was David)
 - Next student moved to Phase 1 once previous student showed initial steady increase in positive behavior
 - A generalization observation was conducted
 - Condition lasted from 5 to 13 sessions

Method: Experimental Design and Conditions

- **Phase 1 of SDLMI: What is My Goal?**
 - **Researcher used Student-Centered Approach**
 - **Goal selected**
 - **On-Task Behaviors were chosen (5 to 6)**
 - **GAS rubric developed from goal and on-task criteria**
 - **Took 1 to 3 sessions to complete**
 - **GAS scoring for teachers began with Phase 2**

Method: Experimental Design and Conditions

- **Phase 2 of SDLMI: What is My Plan?**
 - **Action plan developed**
 - **Self-monitoring strategy designed**
 - **Instructional objectives and educational supports**
 - **Generalization observation conducted**
 - **Took 3 to 6 sessions to implement**

Charles' Self Monitoring Sheet

Charles' Self Monitoring Sheet

Date:

Class:

Goal: I will focus more in class in order to improve my performance as a student in order to make better grades so I can remain on the wrestling team, graduate, and go to college with a wrestling scholarship.

Action Plan:

- 1) Check daily agenda with teacher
- 2) Get Materials needed (e.g. pencil, timer & self-monitoring sheet)
- 3) Enter assignments into planner's calendar & log
- 4) Place notes/reviews/graded work behind divider in planner
- 5) Review goals, action plan, On-Task List and Begin Scoring

Score	On-task behaviors	10 min.	10 min.	10 min.	10 min.	10 min.	10 min.
1.	Self Monitor On-Task Behaviors	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
2.	Paying Attention To the Speaker	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
3.	Working on Assigned Tasks	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
4.	Using appropriate materials	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off
5.	Speaking out appropriately on topic	On / Off	On / Off	On / Off	On / Off	On / Off	On / Off

Jack's Goal Setting & Attainment Monitoring Sheet

Jack's Goal Setting & Attainment Monitoring

My Goal: I want to use more on-task skills/behaviors to increase focus in the classroom to make better grades

- Action Plan:
- 1) Talk with teacher about using IPOD and Drawing
 - 2) Use materials (IPOD & Drawing) appropriately
 - 3) Put into action on-task behaviors
 - 4) Complete Self-Monitoring sheet
 - 5) Score GAS Scale

Date: _____	None	Some	Most		
Use IPOD & Drawing appropriately?	0	1	2	3	4 %
Paying attention to speaker?	0	1	2	3	4 %
Following directions?	0	1	2	3	4 %
Asking for help?	0	1	2	3	4 %
Complete class-work?	0	1	2	3	4 %
% of time in a 60 minute period	25%	50%	75%	100%	

Method: Experimental Design and Conditions

- **Phase 3 of SDLMI: What have I Learned?**
 - Evaluation of performance
 - Self-monitoring utilized by student unaided
 - 80% of targeted on-task behavior 3 consecutive days required to move to maintenance
 - Took 1 to 3 sessions to administer

Method: Experimental Design and Conditions

- **Maintenance**
 - On/off task behavior was observed
 - Weekly grade reports were recorded
 - GAS scoring continued with one student
 - No additional training occurred
 - Generic praise was provided
 - Social validity was conducted and recorded
 - SDS post intervention assessment given
 - Generalization observation completed
 - Took 4 sessions

Method: Treatment Fidelity

- All three phases of instruction measured
- Each phase had its own fidelity checklist
- List of instructional objectives the researcher was to meet
- Fidelity was monitored 25% of instructional sessions by trained graduate student
- Interobserver reliability was provided for 33% of treatment fidelity sessions
- Point-by-point comparison using video
- Fidelity and IOA was 100%

Method: Social Validity

- **Student - structured interview**
 - What they learned?
 - How they felt about the intervention?
 - Will they use skills learned in the future?
- **Teacher - structured interview**
 - What impact did intervention have on student academic and behavior out comes?
 - What they liked about the intervention?
 - Will they use in future?

Data Analysis

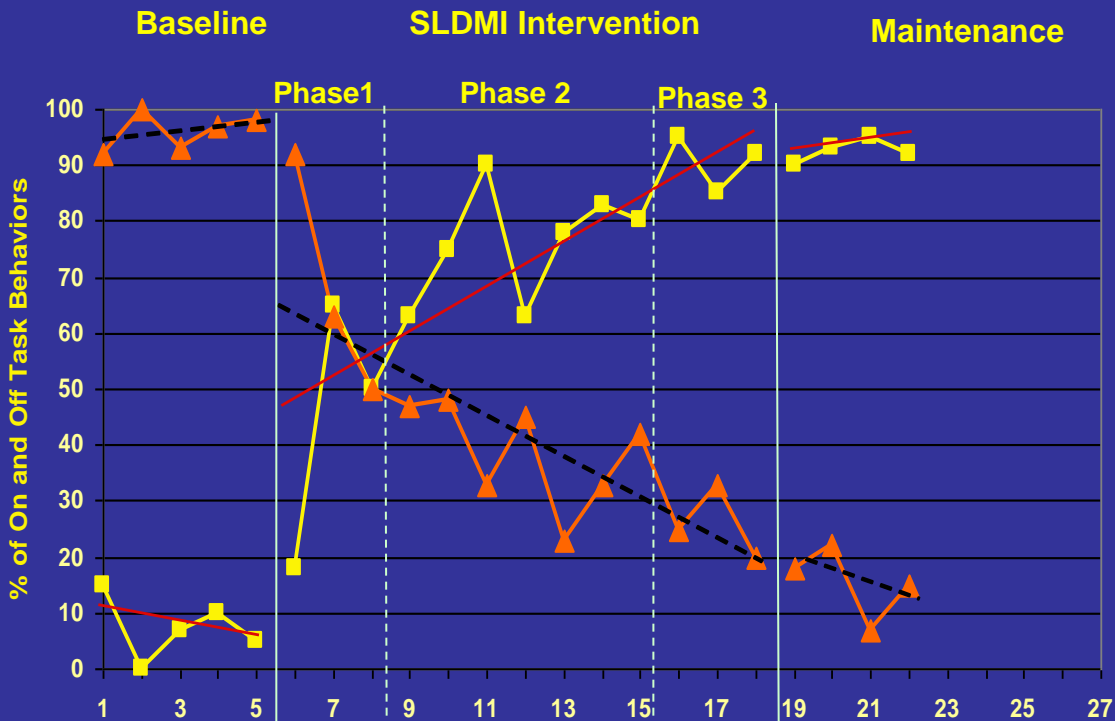
- Percentage of intervals of on/off task behavior were graphed with a regression trend line for each condition
- Graphs were analyzed for experimental control and functional relation
 - Level (mean)
 - Trend/magnitude
 - Variability around trend line
- Descriptive analysis used to assess change in grades, GAS scores, and ARC data to strengthen functional relation
 - Mean
 - Standard deviations
- Social Validity analyzed

Results: Research Question 1

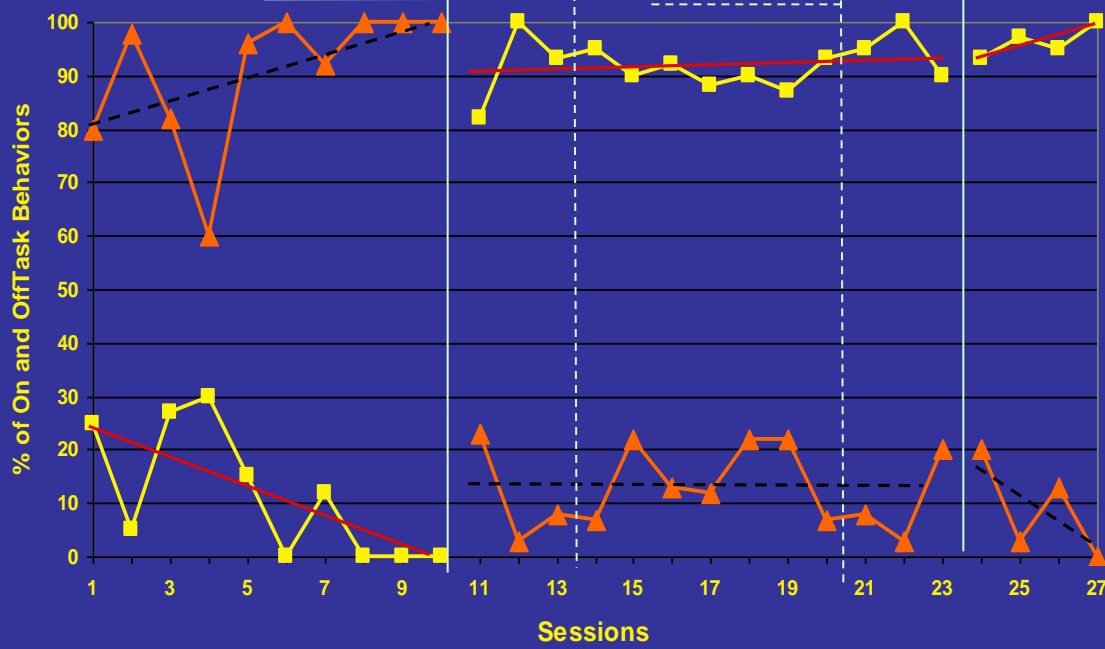
- **Functional relation between SDLMI and On- and Off-task behavior was established for all participants**
 - On-task
 - Off-Task
- **Extended through Maintenance**

Graph Results School 1

Charles



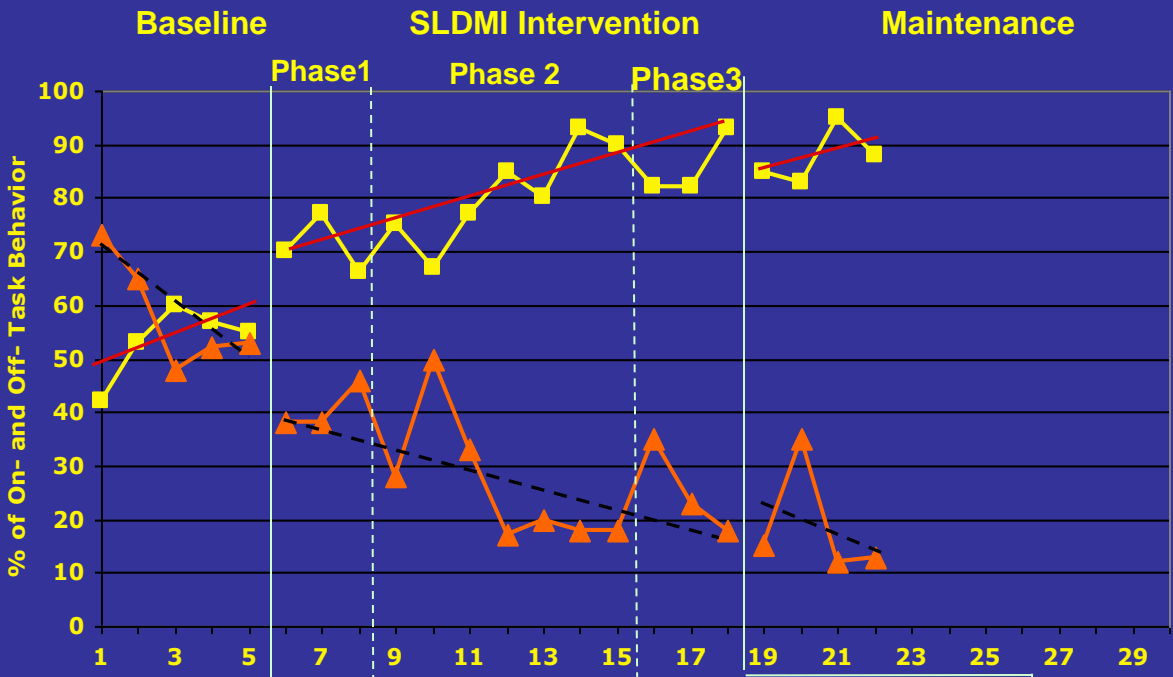
Jack



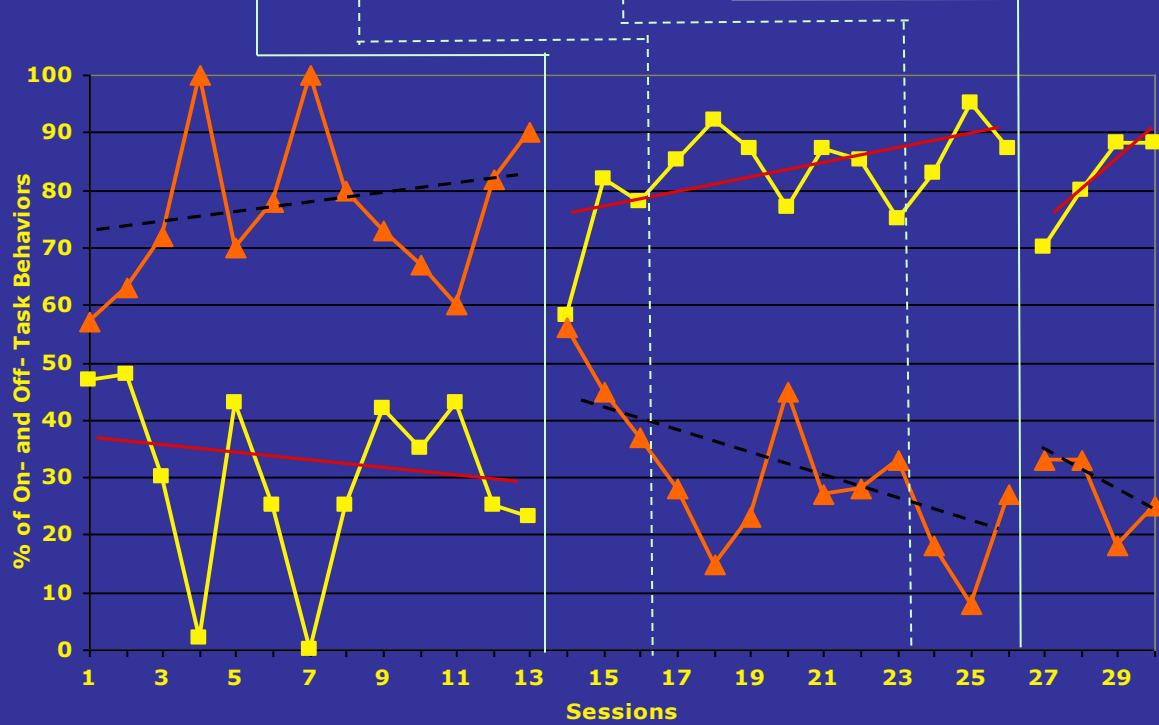
- ▲ Off task behavior
- On task behavior

Graph Results School 2

David



George



- ▲ Off task behavior
- On task behavior

Results: Research Question 2

- All 4 students learned to utilize SDLMI to make progress towards goals

Participant	# of Teacher Ratings	Mean GAS Scores for Teachers	% of Teacher GAS Scores that Met or Exceeded Expectations	# of Student Ratings	Mean GAS Scores for Students	% of Student GAS Scores that Met or Exceeded Expectations
Charles	17	58	76	11	51	64
Jack	19	61	89	6	63	100
David	16	56	88	12	65	83
George	18	59	89	11	64	100
Average	18	59	86	10	61	87

Results: Research Question 3

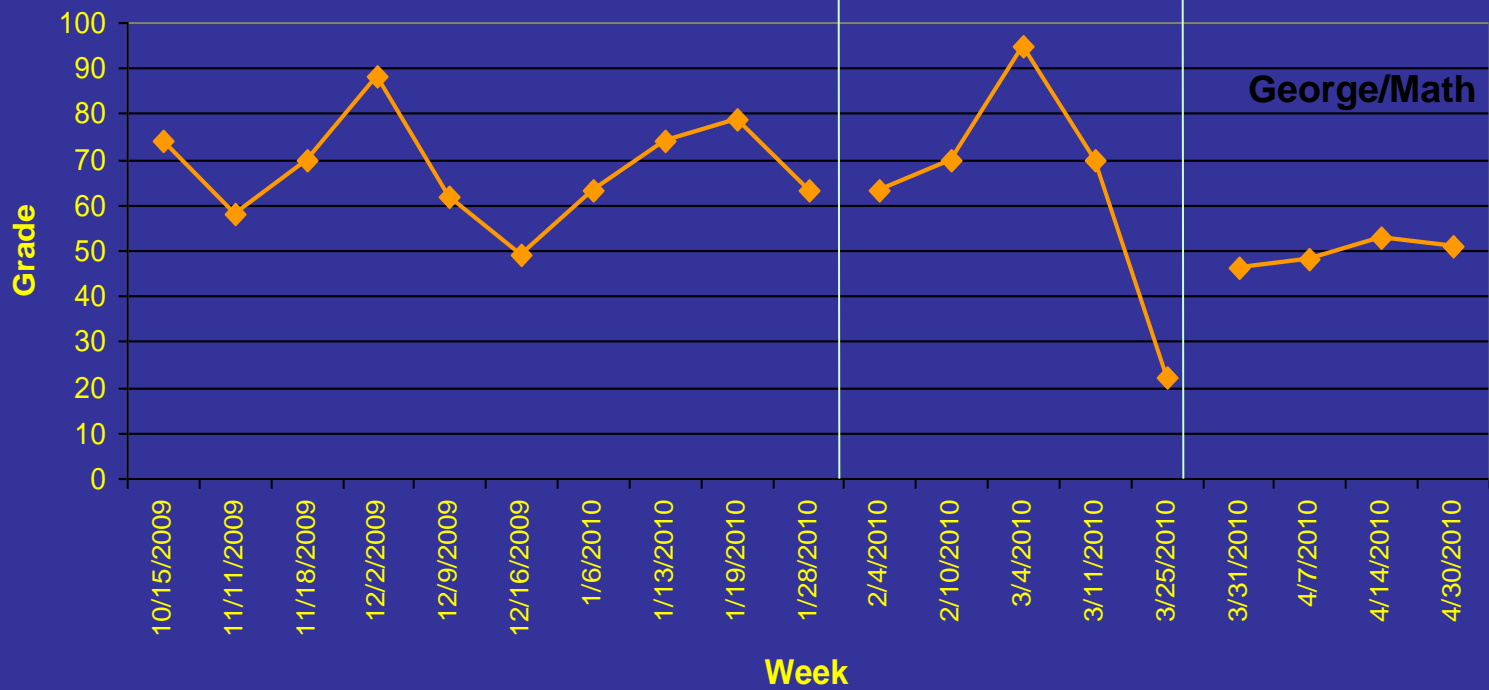
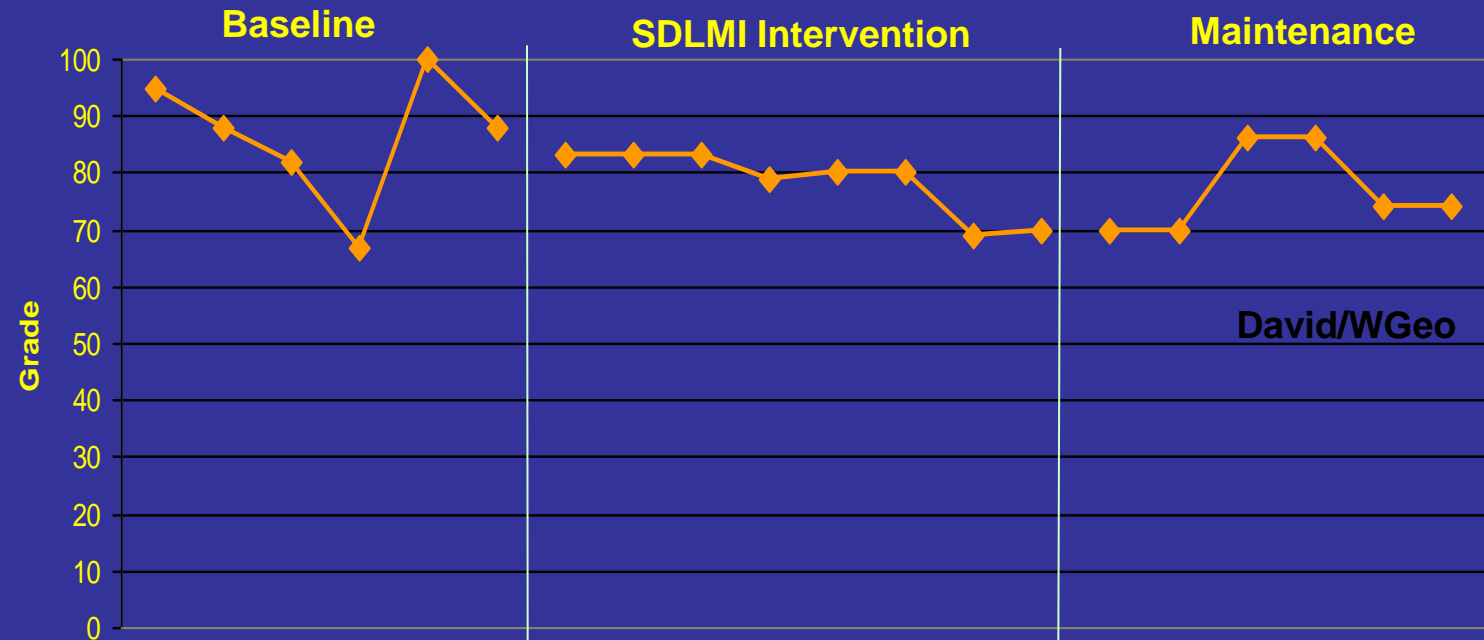
- **Students generalized behavior to other classrooms**

Participant	Class	Baseline	Intervention	Maintenance
Charles	English	17	63	92
Jack	Math	13	98	92
David	CAD	0	100	100
George	English	40	92	87

Note: Numbers represent each student's percentage of on-task behavior observed during one 10 minute session during each condition

Results: Research Question 4

- **SDLMI Effect on Grades was Inconclusive**
- **Increased on-task behavior led to changes in one student's grades during intervention**



Results: Research Question 5

- **SDLMI effect on self-determination inconclusive**
 - SDLMI affect on self-determination inconclusive
 - Only George showed gains in global self-determination
 - Charles, David, & George increased self-regulation
 - Charles, Jack, & George increased self-realization

Participant	Autonomy		Self Regulation		Psychological Empowerment		Self-Realization	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Charles	77	68	15	18	16	16	9	10
Jack	74	71	13	11	15	14	7	9
David	51	37	11	16	14	13	9	8
George	61	60	7	11	16	15	11	13

Pre and Post Test Scores of 4 Sub-Scales on The Self Determination Scale

Social Validity

- **All core teachers and all but one generalization teacher saw improved on task and reduced off task behavior**
 - All reported an increase in work completion and improved attendance
 - One teacher attributed overall class behavior and class grades improved due to student's decrease in off task behaviors
 - Perceptions of positive changes in self-advocacy, confidence, achievement, focus, attendance
- **All teachers wanted to use the instructional model in the future**
- **Positive results came quickly to all students**
 - All students said they would recommend to others
 - All but one enjoyed the process
 - All but one said the process was too slow
 - All but one of the students believed their success in the classroom was the result of the intervention

Findings

- **Empirical evidence that students can be taught, learn, and internalize new behaviors**
- **Expanded the use of GAS as an assessment**
- **Students with EBD can generalize behavior**
- **Grades have limitations as a measure of academic success**
- **SDLMI promoted several SD elements that had positive effects on students**
 - **self-advocacy, self-regulation, self-efficacy, and self-directed learning**

Contributions to the Field

- Supported previous findings on SDLMI
- Explored the relationship between self-determination and behavior
 - First time goals set that targeted behavior
 - First time EBD students targeted
 - First time direct observation of behavior in class
- Offers insight into relationship between behavior and academics (complex function)
 - Behavior may mask lack academic skills
 - Lack of self-regulation skills
 - Behaviors due to negative environmental factors
 - Learned to manage and evaluate on-task behavior

Limitations

- **Small N makes it difficult to generalize**
- **Limited diversity in participants**
- **Researcher instruction & observation influence**
- **Generalization data collected for on-task only**
- **Attendance & Achievement data not collected**
- **Diminished experimental control**

Implications for Practice

- **SDLMI is an effective instructional strategy to improve behavior in the classroom**
- **Importance of student-centered approach**
- **Effective instructional strategy to remediate low academic skills (CBM)**
- **Collaboration**
- **Professional development should incorporate SDLMI strategies**

Implications for Research

- **Replication**
- **Reliable means of measuring academic success**
- **Longitudinal studies on relationship between behavior and academics performance**
- **Studies using teachers as the interventionist are needed**
- **Other settings need to be explored**
- **Design an SD assessment instrument for small N**
- **Large randomized control trials**
- **Explore function of student behavior in greater depth**

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